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A Case Series on *Lodra Vata Kashaya Yoni Praskhalana* in *Shweta Pradara* w.s.r. to vaginal infections due to *Staphylococcus aureus*

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ABSTRACT

The female reproductive tract harbours distinct microbial communities, in the vagina, cervical canal, uterus, and fallopian tubes. The mucosal immune system in the reproductive tract has evolved to meet the unique requirements of dealing with various pathogens. This prevents reproductive tract from various infections. Menstruation, Sexual act, Abortion, unhygienic condition, etc hampers the immunity ultimately leading to infections. Abnormal white discharge per vagina is one of features of infection. Abnormal vaginal discharges can be co-related to *Shweta Pradara*. *Shweta Pradara* is not a disease but mentioned as symptom in various *Yoni Vyapada* and other gynaecological diseases. In *Astanga Samgraha*, *Lodra Vata Kshaya Yoni Prakshalana* is indicated. *Lodra* and *Vata* both have *Kapha Pitta Shamaka* properties. An attempt was made to manage *Shweta Pradara* by Ayurvedic treatment. This study includes 8 female patients having symptoms of *Shweta Pradara*. These patients came with complaints of vaginal discharge, itching in vaginal area, backache etc., and showed the presence of *Staphylococcus aureus* in vaginal swab. These patients were subjected to *Lodra Vata Kashaya Yoni Prakshalana*. The whole treatment was done for 7 days and marked improvement was achieved in all the patients. In conclusion, the potential role of *Lodra Vata Kashaya* was seen in controlling genital infections with *Staphylococcus aureus*.

Key words: Abnormal Vaginal discharge, *Shweta Pradara*, *Leucorrhoea*, *Micro-organisms*, *Staphylococcus aureus*, *Case Series*

INTRODUCTION

A woman during her life span may suffer from different types of discharges per vagina. Normal vaginal flora (lactobacilli) colonizes the vaginal epithelium and has a

potential role in defence against infection. The vagina serves as a passage way between the outside of the body and the inner reproductive organs.

All human beings are subjected to diverse constant threats of invasion of disease from various micro-organisms. Female genital tract possesses various defense mechanisms (anatomical, physiological, hormonal, and microbiological) against the infectious risk, which appear complementary, additive and even synergistic.

There are 3 main lines of defense mechanism against any microbial invasion in human beings.^[1]

1. Protective surface mechanisms (The first line of defense. Pathogens may enter via skin, lining of gut, genitourinary tract and respiratory tract.)

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2. Non - specific tissue defense (Inflammatory response)

3. Specific immune responses (autoimmune reaction)

Apart from these general immune responses, the female reproductive organs have their own defense mechanisms. The genital mucosa is sterile, lacking the presence of a microbial flora.

The female reproductive tract can thus be divided into two compartments, the vagina and ectocervix which host a commensal flora with predominantly lactobacilli which may play an important part in host defense, and endocervix, the uterus and fallopian tubes which are sterile. Sterility in the endocervix depends on the hormonal phases of the menstrual cycle.

The epithelium of the vagina and ectocervix therefore is required to provide a strong barrier whereas the epithelium of uterus and endocervix is less afflicted by microorganisms.

Abnormal vaginal discharges can be co-related to *Shweta Pradara*. *Shweta Pradara* is not a disease but mentioned as symptom in various *Yoni Vyapada*^[2] and various other gynaecological diseases. *Shweta Pradara* occurs due to vitiation of *Visheshikdosha*. Similarities can be seen in colour, consistency of discharge described *Pradara Vyapada*, *Yonivyapada*, *Visheshikdosha Pradara* in the classics for various *Yonivyapada* with presence of various microorganisms. In allied science various treatments are mentioned for white discharge (pelvic infection) like antibacterial, antifungal, etc. but these lead to drug resistance. Owing to the complications like drug resistance and side effects in the allied science, a plant-based formulation which is cheaper, easily available, more effective and freer from side effects is taken for study.

In our classics many internal and external treatments are given for *Shweta Pradara*, Treatment of *Shweta Pradara* is mainly based on the use of drugs which are having predominance of *Kashaya Rasa* and *Ruksha* properties. In *Astanga Samgraha*^[3], *Lodra Vata Kshaya Yoni Prakshalana* is mentioned. *Lodra*^[4] and *Vata*^[5] both have *Kapha Pitta Shamaka* properties. Various studies have revealed the potential of herbs as sources

of drugs and have subsequently identified natural plant-based antimicrobial compounds. The activity of these plants against different bacteria, fungi and parasites might be due to the presence of a wide variety of active secondary metabolites such as flavonoids, phenolic acids, coumarins, terpenoids and sterols.^[6] Both the drugs are easily available, cheap and have shown the inhibitory actions in antimicrobial assay in various studies.

A predominance of *Lactobacillus* spp., *Actinobacteria*, *Prevotella*, *Veillonellaceae*, *Streptococcus*, *Proteobacteria*, *Bifidobacteriaceae*, *Bacteroides* and *Burkholderiales* is found in non-pregnant women. Most bacteria that cause vaginitis are *Staphylococcus aureus*, *Escherichia coli*, group B streptococci (GBS), *Listeria monocytogenes*, *Klebsiella pneumoniae*, *Acinetobacter* spp., *Neisseria gonorrhoea* and bacteria that cause bacterial bacteria.^[7]

Staphylococcus aureus is a gram-positive circular bacterium, a member of Firmicutes and a common member of the body's microbiota. Typically, a human host is infected with bacteria that colonize its skin or mucosal surface. The mucosal surface with *S. aureus* includes the nose, throat, vaginal wall and GI tract. It is well known that *S. aureus* thrives inside and outside the host cells.^[8]

MATERIALS AND METHODS

This case series entitled *Lodra Vata Kashaya Yoni Praskhalana* in *Shweta Pradara* w.s.r. to vaginal infections due to *Staphylococcus aureus* was carried out on 8 patients who attended the OPD and IPD sections of *Prasuti tantra* and *Streeroga* Department, SDM Ayurveda Hospital Udupi.

Inclusion Criteria

- Women aged between 18 to 45yrs.
- Married women

Exclusion Criteria

- Known cases of HIV, VDRL, HBsAG.
- Pregnant women.
- Systemic diseases.

- Malignancies.
- Patients using IUCDs.

Investigations

- Haemoglobin
- TLC
- DLC
- ESR
- RBS

- Urine routine
- Vaginal pH
- Vaginal Swab

Duration of Study

- Duration of treatment (*Lodra Vata Yoni Prakshalana*) - 7 days
- 2 Follow-ups - once in 15 day

SN	Complaints	Examination	pH		Micro-organisms	
			BT	AT	BT	AT
1.	White discharge since 4 months associated with itching per vagina & Dyspareunia.	Inspection-vulva healthy, P/S- Thick White discharge + Cervix- hypertrophied, Nabothian cyst seen at 12 ^o clock position, cervical erosion + Vaginal walls healthy. P/V- Uterus anteverted, normal size, Uterine tenderness absent, CMT- negative, Fornices free.	6	4	Staphylococcus aureus	No pathogenic growth
2.	White discharge since 7 months. c/o backache occasionally	Inspection-vulva healthy, P/S- Mucoïd White discharge + Cervix- Congestion Vaginal walls healthy. P/V- Uterus retroverted, normal size, Uterine tenderness absent, CMT- negative, Fornices free.	8	4	Staphylococcus aureus	No pathogenic growth
3.	White discharge since 5 months.	Inspection-vulva healthy, P/S- Thin White discharge Cervix- Mild congestion. Vaginal walls healthy. P/V- Uterus anteverted, normal size, Uterine tenderness absent, CMT- negative, Fornices free.	6	3	Staphylococcus aureus	No pathogenic growth

4.	White discharge since 1 year associated with itching per vagina & burning micturition since 2 months	Inspection-vulva healthy, P/S- Curdy thick White discharge + + Cervix- Congested, Vaginal walls congested. P/V- Uterus anteverted, normal size, Uterine tenderness absent, CMT- negative, Fornices free.	6	4	Staphylococcus aureus	No pathogenic growth
5.	White discharge since 6 months.	Inspection-vulva healthy, P/S- White discharge + + Cervix- healthy Vaginal walls healthy. P/V- Uterus anteverted, normal size, Uterine tenderness absent, CMT- negative, Fornices free.	7	4	Staphylococcus aureus	No pathogenic growth
6.	White discharge since 4 months.	Inspection-vulva healthy, P/S- Mucoïd White discharge + Cervix- healthy Vaginal walls healthy. P/V- Uterus anteverted, normal size, Uterine tenderness absent, CMT- negative, Fornices free.	6	4	Staphylococcus aureus	No pathogenic growth
7.	White discharge since 2 months. Associated with backache.	Inspection-vulva healthy, P/S- White discharge + + Cervix- hypertrophied. Vaginal walls – Anterior wall congestion seen.. P/V- Uterus retroverted, normal , bulky, Uterine tenderness absent, CMT- negative, Fornices free.	7	5	Staphylococcus aureus	No pathogenic growth
8.	White discharge since 4 years.	Inspection-vulva healthy, P/S- White discharge + Cervix- healthy Vaginal walls healthy.	6	4	Staphylococcus aureus	No pathogenic growth

		P/V- Uterus anteverted, normal size, Uterine tenderness absent, CMT- negative, Fornices free.				
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DISCUSSION

In all the patients, symptoms of white discharge, itching, backache reduced significantly with the treatment of 7 days. The altered vaginal pH also came back to physiological acidic pH, which also acts as defence mechanism in maintain the vaginal flora. In these selected cases, the result of vaginal swab is discussed where we found presence of *Staphylococcus aureus* in all the patients before treatment and after the intervention with *Lodra Vata Kashya Yonipraskhalana*, the significant change was observed in vaginal swab i.e., No Pathogenic growth found).

Every human is an author of his own health and disease. Women being the creator of a family deserve a healthy life. Reproductive tract, when it possesses *Samavastha* of *Doshas* is responsible to maintain normalcy of vaginal flora & vaginal epithelium thus maintain the normal vaginal acidic pH. Any change in this causes infection which leads to pathological condition of the genitalia and these infections are caused by various micro-organisms. Reproductive tract infections can lead to further problem, if left untreated. Majority of the patients usually ignore these problems due to embarrassment or sometimes due to busy life till it hampers daily routine.

Shweta Pradara is a common gynecological problem seen in patients of all age groups. It is a symptom of so many diseases, and sometimes this symptom is so severe that it overshadows underlying pathology.

Lodra and *Vata* possessing *Kapha-Pitta Sthamabaka* properties were selected. *Lodra* and *Vata* having the properties of drugs indicated in *Shweta Pradara* and are discussed below;

Lodhra is *Kapha-Pittagna* and *Kashaya Rasatmaka*, *Laghu*, *Shita*, *Snigdha*, *Katu Vipaki* and *Stambhaka*, *Balya*, *Raktapittahara*, and indicated in *Pradara*. *Vata* is *Kapha-Pittagana*, and having *Yonidosha Hara* properties, *Kashaya Rasatmaka*, *Guru*, *Shita*, *Snigdha*

Katu Vipaki and, *Stambhaka*, *Balya*, *Raktapittahara*, and indicated in *Pradara*. *Lodra* and *Vata* have *Laghu*, *Ruksha Guna* which contributes to the effect of *Sthambhana* and *Shoshana* of *Drava* or Vaginal Discharges.

All plants exhibit tremendous activities based on their phytoconstituents, similarly *Lodra* and *Vata* both possess Astringent property which is attributed to flavonoids and tannins respectively. *Lodra* mainly contains Flavonoids, having properties like anti-inflammatory, anti-oxidant, immunomodulatory, antibacterial, antiparasitic, and antiviral properties. *Vata* is attributes Tannins, which can also be used as adhesive, biocide and fungicide. Antiseptic, Astringent, Anti-inflammatory, haemostatic, etc. Astringents is a substance that causes contraction of body tissues.

In various research studies^[9-12] - *Lodra* and *Vata* both has shown Antibacterial activity on *Staphylococcus aureus*. The result of vaginal swab of this study also showed drugs are effective on *Staphylococcus aureus*.

CONCLUSION

Discharge per vagina can be seen in any age group, these discharges can be due to various causes among them one is infection. These infections are due to presence of various infectious agents like bacteria, protozoa and fungi. *Shweta Pradara* is a symptom of many diseases and it causes many problems to women, physically and mentally. Among the various treatments mentioned for managing *Shweta Pradara*, *Yonipraskhalana* is beneficial as it is a local intervention it gives better and fast result as it is safe and effective. Standing on results, the study shows the efficacy of *Lodra Vata Kashaya Yoni Prakshalana* is effective in treating the *Shweta Pradara* which is because of its *Kapha-Pittagna*, *Stambhaka*, *Shoshana* and *Vrana Ropana* action, thus leading to reducing of symptoms.

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